

## A NEW WATER SCAVENGER BEETLE FROM MEXICO (COLEOPTERA: HYDROPHILIDAE)

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*Abstract.*—A new hydrophilid beetle, *Berosus gordito*, new species, is described from the state of Durango, Mexico. Ten distinguishing morphological characters which serve to separate this new taxon from related species in the genus are described and figured. The biotopes are briefly discussed and two are illustrated.

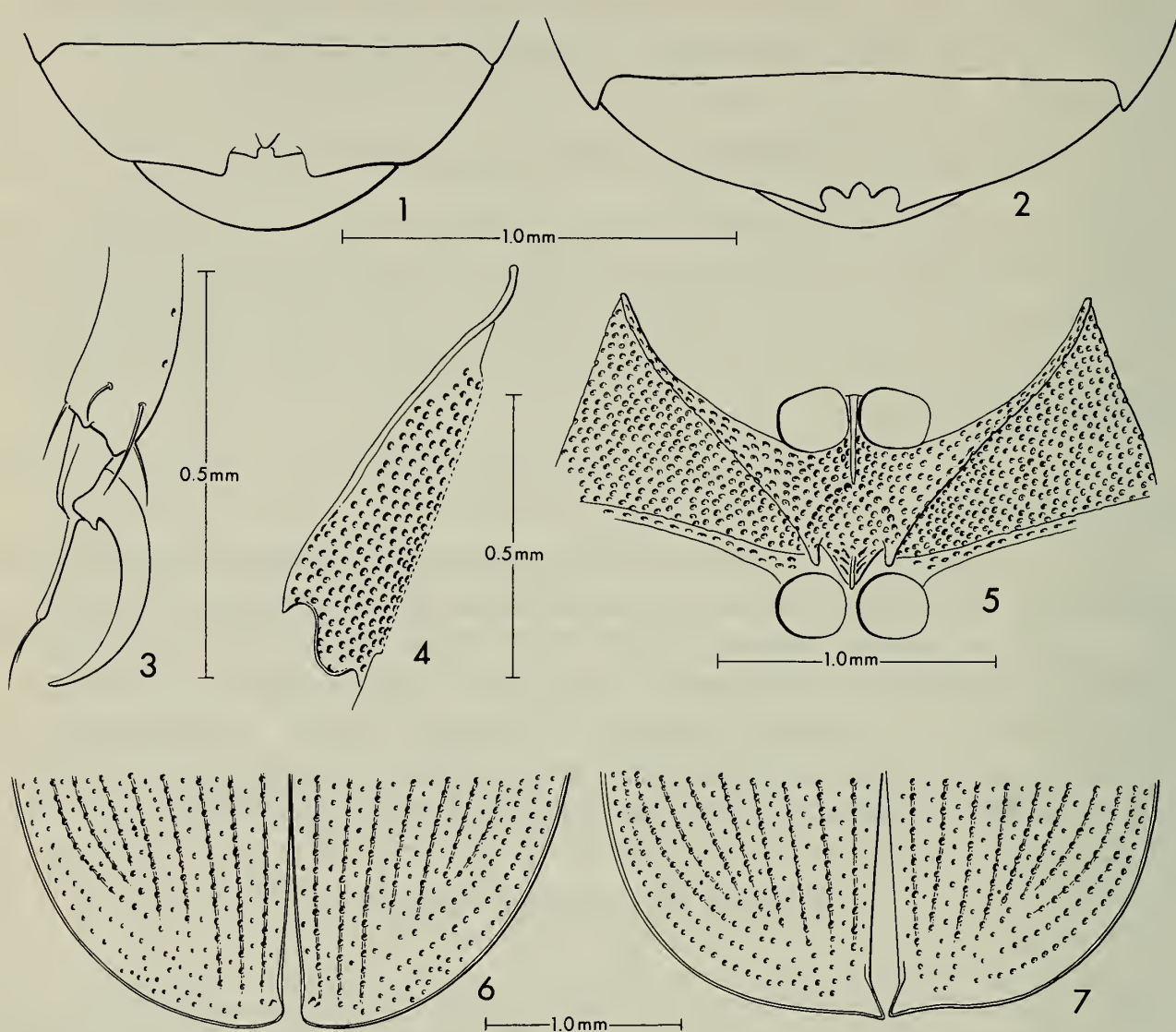
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This new species of *Berosus* is described below to make the name available for use in future studies and publications on water beetles of Mexico. The species is known, thus far, only from a few localities in the state of Durango near the city of Durango. Specimens originating from the collections of the U.S. National Museum of Natural History are indicated by (USNM); those from the collections of the Instituto de Biología, Universidad Nacional Autónoma de México, are indicated by (UNAM).

### *Berosus gordito*, new species (Figs. 1-12)

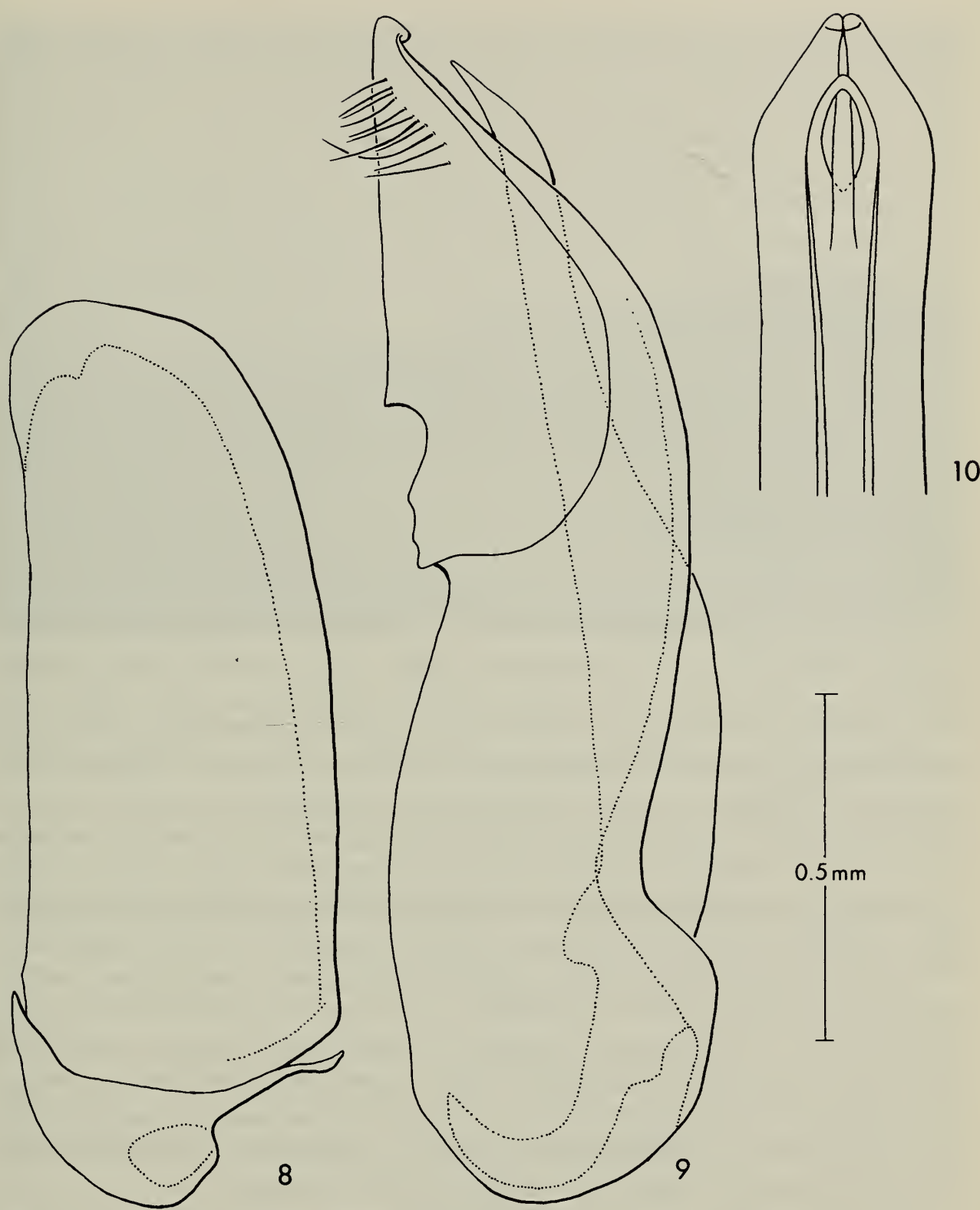
This new species may be distinguished by the following combination of characters: head black, pronotum and scutellum testaceous; mesosternal crest toothed posteriorly and sinuous behind tooth; female with 2 distinct teeth in apical emargination of fifth abdominal sternum and elytral apices prolonged into acute angles; male with 2 small teeth in emargination of fifth abdominal sternum but obscured by an apicomedial lobe; elytral apices normal, not prolonged or angular; apices of male parameres each with a small but distinct transverse reflexed ridge dorsally at apex.

Length of holotype male 4.5 mm, greatest width 3.0 mm. Color of head black, with brassy reflection. Pronotum testaceous. Elytron testaceous but apical and anterolateral areas slightly lighter; humeral macula light brown; interval 4 with faint brownish macula before midlength; intervals 3 and 4 each with a dark brown macula slightly behind midlength; intervals 4 and 6 each with a dark brown linear macula at apical four-fifths; elytral striae dark brown to piceous. Scutellum testaceous. Venter black except prosternum and procoxae ferrugineous; apex of mesosternum and mesocoxae piceous; other segments of legs testaceous; tibial spurs and tarsal claws dark reddish brown. Maxillary palpus testaceous, except apex infusate. Antenna and labial palpus testaceous.



Figs. 1-7. *Berosus gordito*, n. sp.: 1, emargination of fifth abdominal sternum, ♂, vv; 2, same of ♀; 3, tarsal claw, lv; 4, mesosternal crest, lv; 5, metasternal process, vv; 6, elytral apices, ♂, dv; 7, same of ♀. (vv = ventral view; lv = lateral view; dv = dorsal view).

Head moderately coarsely punctate, punctures separated by one-half to one time their width; labrum with fine and dense seta-bearing punctures; setae more conspicuous apically. Pronotum with very feeble alutaceous sculpture on disc, becoming stronger laterally; subrectangular, slightly more than twice as wide as long; finely margined anteriorly and laterally, antero-lateral and posterolateral angles rounded; sides feebly arcuate; discal punctures finer than those on head; lateral punctures coarser, similar to those on head. Scutellum with punctures similar in size and density to lateral punctures on pronotum. Elytron with 11 striae, discal striae distinctly impressed, lateral striae feebly so, second stria incomplete, not attaining mid-length; striae 7 and 8 arising behind humeral macula, not from base; most punctures of striae and intervals slightly larger than discal punctures of pronotum; punctures of intervals fine and coarse intermixed; apex and margin with seta-bearing punctures; humeral angles smoothly rounded; sides finely



Figs. 8–10. *Berosus gordito*, n. sp., male aedeagus: 8, basal piece, lv; 9, apical piece, lv; 10, apices of parameres and median lobe, dv. (lv = lateral view; dv = dorsal view).

margined; apical angles rounded; sutural angle entire (Fig. 6). Legs pubescent on basal half of profemur and mesofemur; metafemur pubescent on basal three-fifths. Protarsus four segmented; basal segment subequal to second and third segments combined, moderately expanded, with pubescent pad along entire length ventrally; second segment short, subequal to third,



slightly expanded, with pubescent pad on apicolateral angle ventrally; third segment not expanded and without pubescent pad; fourth segment as long as second and third segments combined, without pubescence. Tarsal claws long, slender, each claw with a small acute basal tooth (Fig. 3). Venter with short, fine, dense, yellowish hydrofuge pubescence. Mesosternal crest (Fig. 4) low anteriorly, moderately high posteriorly, with moderately large posteroapical tooth, and sinuous behind tooth. Metasternal process (Fig. 5) with acute apicolateral projections shorter than posteromedial crest. Abdominal sterna not carinate; fifth abdominal sternum with two small median teeth obscured by an apicomedial lobe (Fig. 1). Aedeagus as illustrated (Figs. 8, 9, 10).

*Female*.—The allotype differs from the male as follows: pronotum distinctly alutaceous; protarsus five segmented, without pubescent pads; fifth abdominal sternum with two small median teeth in apical emargination (Fig. 2) and apicomedial lobe absent, therefore, teeth more distinct than those on male; elytral apices (Fig. 7) moderately produced, acutely angular, and overlapping in normal position.

*Variations*.—This taxon is variable in a number of characters as follows: Length from 4.5 to 6.0 mm; greatest width 3.0 to 4.1 mm. The brownish maculae on the elytra, as in many species of *Berosus*, vary widely from very reduced maculation to moderately confluent maculae; especially those on intervals 3, 4, and 6. When these maculae (3, 4, 6) are confluent, they become subvittate, i.e., the confluency is longitudinal, not transverse. In teneral and lightly pigmented specimens the humeral and anterior maculae on interval 3 (actually 2 and 3 combined) are often absent, and in these instances all maculae usually are restricted to the posterior half of the elytron. In lightly maculate specimens, interval 5 usually is immaculate; but in more obviously maculate forms, interval 5 may have a medial and rarely a second macula just before midlength. The posteriorly abbreviated second elytral stria row of punctures usually is straight and terminates on midline between first and third striae but in some examples this stria curves inward and terminates by merging with the first stria. The alutaceous pronotal sculpture is distinct on all females examined. On males this sculpture is much more feeble and in a few (3 out of 17) essentially absent.

*Type-data*.—Holotype male: MEXICO: Durango, Cerro Gordo, 28 June 1964, Paul J. Spangler, USNM Type No. 75664, deposited in the National Museum of Natural History, Smithsonian Institution. Allotype, same data as holotype. Paratypes: MEXICO: Same data as holotype, 13♂♂, 12♀♀ (USNM); Durango, Morcillo (at Lago Pena del Aguila), 28 June 1964, Paul J. Spangler, 1♂, 1♀ (USNM); Durango, Durango (25 KM west), 29 June 1964, Paul J. Spangler, 1♂ (USNM); Durango, Guatimapé, Laguna Santiaguillo, 18 August 1970, G. Fernández 2♂♂, 2♀♀ (UNAM).



Fig. 11. *Berosus gordito*, n. sp., biotope, type-locality.

*Etymology*.—The name *gordito* is from the Spanish vernacular meaning little fat one and is used here in apposition to the generic name. The name appropriately describes the shape of this species which is stouter than the majority of the species of *Berosus* when viewed from above.

This new taxon is one of only 4 species of *Berosus* described from Mexico and Central America which have a testaceous pronotum and scutellum. Two of these species, *B. stramineus* Knisch and *B. metalliceus* Sharp, may be eliminated immediately by the lack of teeth in the emargination of the fifth abdominal sternum. Therefore, *B. gordito* is most similar to *B. rubellus* Knisch because both have 2 teeth in the emargination. *Berosus gordito* may be distinguished from *rubellus* as follows: mesosternal crest ascending to the tooth, then descending and sinuous behind tooth; elytral apices produced and acutely angular in female; first abdominal sternum ecarinate; teeth in emarginate fifth sternum obscured by an apicomedial lobe and elytral apices normal in males. Conversely, *rubellus* has: a truncate mesosternal crest; male and female elytral apices normal; first abdominal sternum carinate and faintly extending to basal third; teeth in emargination fine but no apicomedial lobe obscuring them in males.

*Habitat*.—The specimens of the type-series from Cerro Gordo were collected from shallow roadside pools adjacent to pastures (Fig. 11). These pools were enriched with cow manure and bordered with *Marsilea* and





Fig. 12. *Berosus gordito*, n. sp., biotope. Lago Pena del Aguila.

*Jussiaea*. The specimens from Morcillo (at Lago Pena del Aguila) (Fig. 12) were collected from a pool at the base of the dam breast. The specimens from 25 miles west of Durango were collected in roadside ditches.

#### Acknowledgments

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